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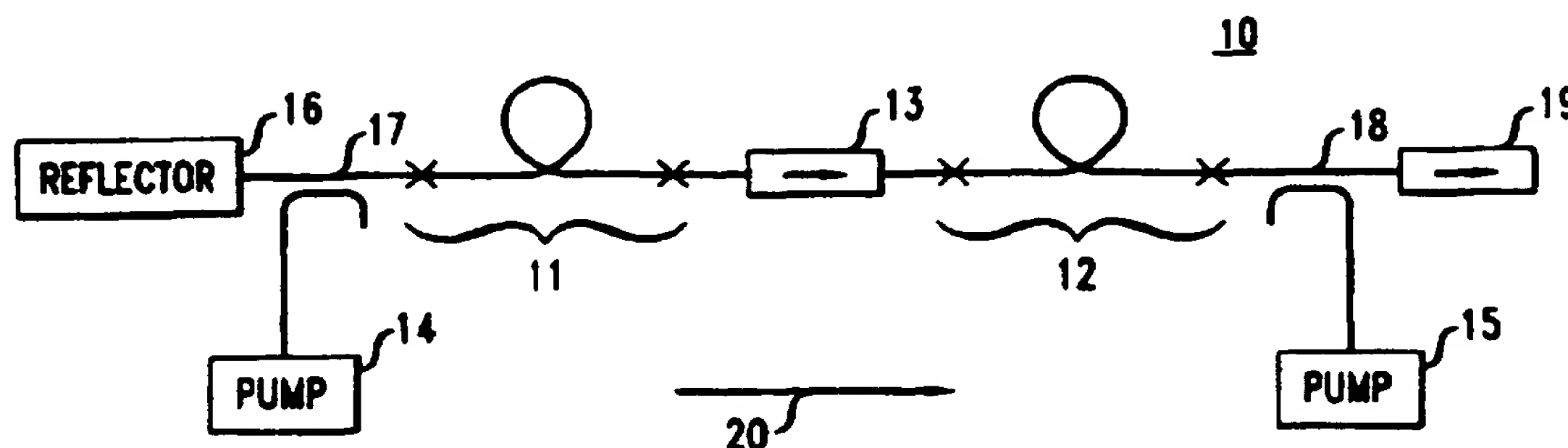
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(54) Article comprising a high power/broad spectrum superfluorescent fiber radiation source

(57) A novel superfluorescent fiber source (SFS) (10) has high power and broad bandwidth, and can advantageously be used in a variety of applications, e.g., optical coherent tomography systems, sliced spectrum optical fiber communication systems, and optical position sensing systems. The novel SFS comprises a first and a second length of rare earth-doped optical fiber (11,12), with an optical isolator (13) therebetween. Light from a first pump source (14) is provided to the first length of optical fiber, and light from a second pump

source (15) is provided to the second length of optical fiber. An optional reflector (16) is disposed to reflect at least some upstream-propagating light back into the first length of optical fiber, whereby generation of long-wavelength amplified spontaneous emission (ASE) is facilitated. The long-wavelength ASE is transmitted through the optical isolator to the second length of rare earth-doped optical fiber, where broadband ASE is generated and the long-wavelength ASE is amplified. The resulting ASE is provided to utilization means.

FIG. 1



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EUROPEAN SEARCH REPORT

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DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int.Cl.7)
X	DEGANAIS D M ET AL: "WAVELENGTH STABILITY CHARACTERISTICS OF A HIGH-POWER, AMPLIFIED SUPERFLUORESCENT SOURCE" JOURNAL OF LIGHTWAVE TECHNOLOGY, IEEE. NEW YORK, US, vol. 17, no. 8, August 1999 (1999-08), pages 1415-1421, XP000919579 ISSN: 0733-8724 * abstract *	1,5-10	H01S3/067 G01C19/72
X	GOLDBERG L ET AL: "HIGH-POWER 1.5-MUM SUPERFLUORESCENT SOURCE FOR FIBEROP-OPTIC GYROSCOPES" CONFERENCE ON OPTICAL FIBER COMMUNICATIONS. DALLAS, FEB. 16 - 21, 1997, NEW YORK, IEEE, US, 16 February 1997 (1997-02-16), pages 28-29, XP000776390 ISBN: 0-7803-3860-X * figure 1 *	1,6-10	
X	TAKADA K ET AL: "High-sensitivity low coherence reflectometer using erbium-doped superfluorescent fibre source and erbium-doped power amplifier" ELECTRONICS LETTERS, 18 FEB. 1993, UK, vol. 29, no. 4, pages 365-367, XP002219635 ISSN: 0013-5194 * figure 1 *	1-3,5	<div>TECHNICAL FIELDS SEARCHED (Int.Cl.7)</div> H01S
The present search report has been drawn up for all claims			
Place of search THE HAGUE		Date of completion of the search 6 November 2002	Examiner Galanti, M
<div>CATEGORY OF CITED DOCUMENTS</div> <div> X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons & : member of the same patent family, corresponding document </div>			

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DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (IntCl.7)
X	GRAY S ET AL: "1WATT ER/YB SINGLEMODE SUPERFLUORESCENT OPTICAL FIBRE SOURCE" ELECTRONICS LETTERS, IEE STEVENAGE, GB, vol. 33, no. 16, 31 July 1997 (1997-07-31), pages 1382-1383, XP000734263 ISSN: 0013-5194 * figures 1,2 *	1,4	
			TECHNICAL FIELDS SEARCHED (IntCl.7)
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